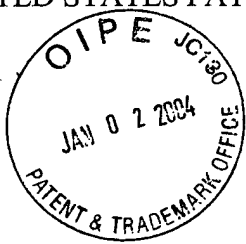


IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Dan Fraenkel		§	
Serial No.:	10/657,585		§	Group Art Unit: 1621
Filed:	09/08/2003		§	Confirmation No.: 9875
For:	Chemically And Thermally Stabilized Alumina For Fischer- Tropsch Catalysts		§	Examiner: Not Yet Assigned

**INFORMATION DISCLOSURE STATEMENT**

Commissioner of Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

Att'y Docket No. 1856-33100  
Client Ref. No. 9660.0-02  
Date: December 30, 2003

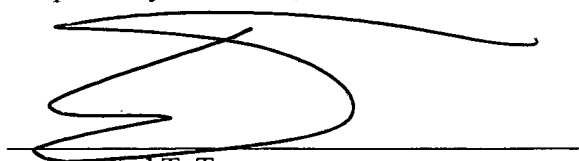
Sir:

This Information Disclosure Statement, including completed Form PTO-1449, comprises a list of pertinent art of which Applicant is aware. This application was filed after June 30, 2003, therefore, copies of U.S. patent documents listed on Form PTO-1449 are not enclosed; however, copies of other pertinent publications are enclosed herewith.

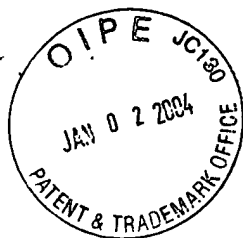
The submission of this Information Disclosure Statement and the references submitted herewith is not an admission that the art cited is "prior" with respect to the present invention, nor is it a representation, that no better art exists. Applicants hereby reserve the right to swear behind or otherwise disprove any alleged "prior" nature of any art cited should the facts support and the situation warrant such an action. It is submitted that the art cited does not constitute a bar to the patentability of Applicants' invention under 35 U.S.C. § 102 or § 103.

Applicant believes no fee is due for the filing of these papers.

Respectfully submitted,



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Sheet 1 of 4

**Complete if Known**

Application Number	10/657,585
Filing Date	Sept. 8, 2003
First Named Inventor	Dan Fraenkel
Art Unit	1621
Examiner Name	Not Yet Assigned
Attorney Docket Number	1856-33100

**U. S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
		US- 2,892,858	06-30-1959	Ziegler	
		US- 3,852,190	12-03-1974	Buss et al.	
		US- 4,012,313	03-15-1977	Buss et al.	
		US- 4,063,851	12-20-1977	Weldon	
		US- 4,224,192	09-23-1980	Foster et al.	
		US- 4,387,085	06-07-1983	Fanelli et al.	
		US- 4,617,183	10-14-1986	Lewis et al.	
		US- 4,708,945	11-24-1987	Murrell et al.	
		US- 4,744,974	05-17-1988	Lewis et al.	
		US- 4,831,007	05-16-1989	Murrell et al.	
		US- 4,891,127	01-02-1990	Murrell et al.	
		US- 5,055,019	10-08-1991	Meyer et al.	
		US- 5,102,851	04-07-1992	Eri et al.	
		US- 5,116,879	05-26-1992	Eri et al.	
		US- 5,134,107	07-28-1992	Narula	
		US- 5,232,580	08-03-1993	Le et al.	
		US- 5,837,634	11-17-1998	McLaughlin et al.	
		US- 6,063,358	05-16-2000	Lindquist et al.	
		US- 6,224,846	05-01-2001	Hurlburt et al.	

**FOREIGN PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> Number <sup>4</sup> Kind Code <sup>5</sup> (if known)				
		GB 640,965	08-02-1950	Anglo-Iranian Oil Co.		
		GB 2 352 194 A	01-24-2001	Sasol Technology		
		WO 02/07883 A2	01-31-2002	Sasol Technology		
		WO 99/42214	08-26-1999	Sasol Technology		

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**Complete if Known**

Application Number	10/657,585
Filing Date	Sept. 8, 2003
First Named Inventor	Dan Fraenke!
Art Unit	1621
Examiner Name	Not Yet Assigned
Attorney Docket Number	1856-33100

## U. S. PATENT DOCUMENTS

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## FOREIGN PATENT DOCUMENTS

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		<b>Application Number</b>	10/657,585		
		<b>Filing Date</b>	September 8, 2003		
		<b>First Named Inventor</b>	Dan Fraenkel		
		<b>Group Art Unit</b>	1621		
		<b>Examiner Name</b>	Not Yet Assigned		
<b>Sheet</b>	3	<b>of</b>	4	<b>Attorney Docket Number</b>	1856-33100

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Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate) title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, page(s), volume-issued number(s), publisher, city and/or country where published.	T <sup>2</sup>
		IHNS SCHULZ; Short History and Present Trends of Fischer-Tropsch Synthesis; Abstract; Universiot Karlsruhe, Germany; 10 pages.	
		M. ABSI-HALABI, et al.; "Studies on Pore Size Control of Alumina: Preparation of Alumina Catalyst Extrudates with Large Unimodal Pore Structure by Low Temperature Hydrothermal Treatment"; Preparation of Catalysts V, 1991 Elsevier Science Publishers B.V., Amsterdam, pp. 155 - 163.	
		ALCOA WORLD CHEMICAL; "High purity, high density, boehmite aluminas"; ALCOA Product Data USA/6070-RO4/0801; 2 pages.	
		ALCOA WORLD CHEMICAL; "High purity, high density, boehmite aluminas"; ALCOA Product Data Sheet USA/6070-RO4/0801; 2 pages.	
		CONDEA; "High purity activated aluminas PURALOX, CATALOX"; Product Information Sheet 10/99; 6 pages	
		RONG-SHENG ZHOU, et al.; "Structures and Transformation Mechanisms of the $\eta$ , $\gamma$ and $\theta$ Transition Aluminas"; International Union of Crystallography 1991; Institute for Ceraminc Superconductivity, New York State College of Ceramics, Alfred University, Alfred, NY 14802, USA; pp. 617-630	
		RICHARD L. SMITH, et al.; "The Influence of Diaspore Seeding and Chlordie Concentration on the Transformation of 'Diasporic' Precursors to Corundum"; Journal of the American Ceramic Society, October 16, 2000; 31 pages.	
		S. MATSUDA, et al.; "A New Support Material for Catalytic Combustion Above 1000 C"; 8th International Congress on Catalysis; Vol. IV: Impact of surface science on catalysis, structure-selectivity/activity correlations, new routes for catalyst synthesis, pages IV-879-IV-889.	
		H.C. STUMPF, et al.; "Thermal Transformations of Aluminas and Alumina Hydrates"; Industrial and Engineering Chemistry, Vol. 42, No. 7, July 1950; pages 1398-1403.	
		SHU-HUI CAI, et al.; "Atomic Scale Mechanism of the Transformation of $\gamma$ -Alumina to $\theta$ -Alumina"; The American Physical Society 2002; Physical Review Letters, Vol. 89, No. 23; December 2, 2002; 4 pages.	
		ZHONG-WEN LIU, et al.; "Partial Oxidation of Methane Over Nickel Catalysts Supported on Various Aluminas"; Korean J. Chem. Eng., Vol. 19, No. 5, pages 735-741 (2002).	

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		<b>Application Number</b>	10/657,585		
		<b>Filing Date</b>	September 8, 2003		
		<b>First Named Inventor</b>	Dan Fraenkel		
		<b>Group Art Unit</b>	1621		
		<b>Examiner Name</b>	Not Yet Assigned		
<b>Sheet</b>	4	<b>of</b>	4	<b>Attorney Docket Number</b>	1856-33100

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		HYUN-SEOG ROH, et al.; "Partial Oxidation of Methane Over Ni/θ-A1 <sub>2</sub> O <sub>3</sub> Catalysts"; Chemistry Letters 2001; March 19, 2001; pages 666-667.	
		HYUN-SEOG ROH, et al.; "Partial Oxidation of Methane Over Ni/Ce-ZrO <sub>2</sub> /θ-A1 <sub>2</sub> O <sub>3</sub> "; Korean J. Chem. Eng., Vol. 19, No. 5; pages 742-748 (2002).	
		HIROMICHI ARAI, et al.; "Thermal stabilization of catalysts supports and their application to high-temperature catalytic combustion"; Applied Catalysis A: General 138 (1996); pages 161-176; Elsevier Science Publishers B.V., Amsterdam.	
		BERNARD BEGUIN et al.; "Stabilization of alumina by addition of lanthanum"; Applied Catalysis A: General 138 (1996); pages 161-176; Elsevier Science Publishers B.V., Amsterdam.	
		FRANCOIS OUDET, et al.; "Thermal Stabilization of Transition Alumina by Structural Coherence with LnAlO <sub>3</sub> (Ln = La, Pr, Nd)"; Journal of Catalysts Vol. 114; pages 112-120 (1988).	
		H. SCHAPER, et al.; "The Influence of Lanthanum Oxide on the Thermal Stability of Gamma Alumina Catalyst Supports"; Applied Catalysis, Vol. 7 (1983), pages 211-220; Elsevier Science Publishers B.V., Amsterdam.	
		JALAJAKUMARI NAIR, et al.; "Pore Structure Evolution of Lanthana-Alumina Systems Prepared Through Coprecipitation"; J. Am Ceram. Soc., Vol. 83, No. 8; pages 1942-46 (2000).	
		S. N. RASHKEEV, et al.; "Transition metal atoms on different alumina phases: The role of subsurface sites on catalytic activity"; Physical Review B, Vol. 67, No. 115414; 4 pages.	
		HENNIE SCHAPER, et al.; "Thermal Stabilization of High Surface Area Lumina"; Solid State Ionics, Vol. 16 (1985), pages 261-266.	
		XIAOYIN CHEN, et al.; "High temperature stabilization of alumina modified b lanthanum species"; Applied Catalysis A: General, Vol. 205 (2001); pages 159-172.	
		S. SUBRAMANIAN, et al.; "Characterization of lanthana/alumina composite oxides"; Journal of Molecular Catalysis, Vol. 69 (1991); pages 235-245.	
		P. SOUZA SANTOS, et al.; "Standard Transition Aluminas. Electron Microscopy Studies"; Materials Research, Vol. 3, No. 4; pages 104-114, 2000.	

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